

Application No. 10/648,324

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (previously amended) An inflator of cylindrical shape having a longitudinal axis comprising:
  - an igniter having ignition material that burns upon application of heat;
  - one gas generant disposed adjacent to the igniter whereby the igniter directly ignites the gas generant;
  - a generant cup, the generant cup having a cylindrical shape with an open end and a closed end bottom for storing the gas generant wherein the open end of the gas generant cup faces the igniter, a rupture lid is fixedly attached to the open end of the generant cup creating an air-tight environment for the gas generant, and the closed end bottom is rupturable upon burning of the gas generant to create a gas flow path outward the ruptured bottom end;
  - a plurality of apertures adjacent the closed end bottom of the generant cup for directing the gas flow substantially parallel to the longitudinal axis of the inflator;
  - a tubular filter positioned adjacent to the apertures; and
  - a filter housing that receives the entire filter, the filter housing having a closed end and a plurality of exit ports arranged around the circumference thereof whereby each of the exit ports is aligned with the filter and is in closer proximity to the apertures than to the closed end, wherein the inflation gas for filling an airbag is produced only from the burning of the ignition material and the gas generant and the majority of gas molecules reflect off the closed end then through the filter and out of the inflator via the exit ports.

2. (cancelled)

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3. (previously amended) The inflator according to claim further comprising a retaining ring surrounding the ignition material of the igniter and having generally a cylindrical shape, the retaining ring focusing gaseous products from burning of the ignition material into the rupture lid of the generant cup.

4. (previously amended) The inflator according to claim 1 further comprising a combustion chamber, the combustion chamber fully receiving the generant cup wherein the combustion chamber has a first end facing the igniter and a second end has the plurality of apertures.

5. (previously amended) The inflator according to claim 4 wherein a wall of the combustion chamber tapers inward closer to the second end of the combustion chamber.

6. (previously amended) The inflator according to claim 4 wherein a wall of the combustion chamber tapers inward closer to the first end of the combustion chamber.

7. (previously amended) The inflator according to claim 4 wherein the second end of the combustion chamber is telescopically inserted into an open end of the filter housing.

8. (previously amended) The inflator according to claim 4 wherein a longitudinal axis of the generant cup is coaxial with a longitudinal axis of the filter, wherein one end of the filter contacts the second end of the combustion chamber.

9. (original) The inflator according to claim 8 wherein the plurality of exit ports are arranged in one row around the circumference of the filter housing, wherein atmospheric gas is present inside the filter housing.

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10. (currently amended) The inflator according to claim 9 wherein the exit ports are arranged closer to the second end of the combustion chamber than [[a]] the closed end of the filter housing.

11. (currently amended) An inflator of cylindrical shape having a longitudinal axis comprising:

an igniter having ignition material that burns upon application of heat;

one gas generant disposed adjacent to the igniter whereby the igniter directly ignites the gas generant;

~~a generant cup, the generant cup having a cylindrical shape with an open end and a closed end bottom for storing the gas generant wherein the open end of the gas generant cup faces the igniter, a rupture lid is fixedly attached to the open end of the generant cup creating an air-tight environment for the gas generant, and the closed end bottom is rupturable upon burning of the gas generant to create a gas flow path outward the ruptured bottom end;~~

a combustion chamber for storing the gas generant, the igniter is received in a first end of the combustion chamber, a second sealed end of the combustion chamber having a plurality of apertures covered by a burst foil for gas to flow out of the combustion chamber substantially parallel to the longitudinal axis;

a tubular filter positioned adjacent to the apertures; and

a filter housing that receives the entire filter, the filter housing having a closed end and a plurality of exit ports arranged around the circumference thereof whereby each of the exit ports is aligned with the filter and is in closer proximity to the apertures than to the closed end, wherein the inflation gas for filling an airbag is produced only from the burning of the ignition material and the gas generant and the majority of gas molecules reflect off the closed end then through the filter and out of the inflator via the exit ports.

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12. (cancelled)

13. (original) The inflator according to claim 11 further comprising an igniter retainer for holding the igniter, wherein the igniter retainer is attached to the first end of the combustion chamber.

14. (original) The inflator according to claim 11 wherein the plurality of exit ports are arranged in one row around the circumference of the filter housing, wherein atmospheric gas is present inside the filter housing.

15. (currently amended) The inflator according to claim 14 wherein the exit ports are arranged closer to the second end of the combustion chamber than [[a]] the closed end of the filter housing.

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16. (previously amended ) A cylindrically shaped inflator having a longitudinal axis comprising:

an igniter having ignition material that burns upon application of heat;  
one gas generant disposed adjacent to the igniter whereby the igniter directly ignites the gas generant;  
a generant cup, the generant cup having a cylindrical shape with an open end and a closed end bottom for storing the gas generant wherein an open end of the gas generant cup faces the igniter, and the bottom is rupturable upon burning of the burning of the gas generant to create a gas flow path outward the ruptured bottom;  
a plurality of apertures adjacent the closed end bottom of the generant cup for directing the gas flow substantially parallel to the longitudinal axis of the inflator;  
a tubular filter positioned adjacent to the gas generant; and  
an inflator housing that receives the entire filter, the inflator housing having a closed end and a plurality of exit ports arranged around the circumference thereof whereby each of the exit ports is aligned with the filter and is in closer proximity to the plurality of apertures than to the closed end, wherein the inflation gas for filling an airbag is produced only from the burning of the ignition material and the gas generant and the majority of gas molecules reflect off the closed end then through the filter and out of the inflator via the exit ports.

17. (cancelled)

18. (currently amended) The inflator according to claim 16 wherein the inflator housing completely receives the filter and the generant cup, wherein the plurality of exit ports are closer to the generant cup than [[a]] the closed end of the inflator housing.

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19. (previously amended) The inflator according to claim 16 further comprising a choke plate having the plurality of apertures for regulating the gas flow of the inflation gas whereby the choke plate is disposed between the generant cup and the filter.